per the Armand classification. Overall and progression-free survival were compared between the overall risk groups (low, intermediate, high and very high).

Results: Median age (range) was 49.4 (19-73.8) years. 139 (43%) patients received matched sibling grafts, 120 (37%) from matched unrelated donors and 63 (20%) from unrelated one HLA-antigen/allele mismatched donors. AML was the most common diagnosis (40%); 31% of all patients were in CR1. HCT-CI scores were 0 (13%), 1-2 (32%) and 3 or greater (55%). 42% of patients had a Karnofsky performance status of 100%. 89% of patients were targeted to a busulfan AUC of 5300 mM*min. GVHD prophylaxis consisted of tacrolimus and methotrexate in 77% of patients. Disease risk by CIBMTR classification was Early 42%, Intermediate 34%, and Advanced 24%. Disease, stage, and overall risk groups, according to the criteria set forth by Armand, et al. as well as the corresponding overall (OS) and progression free survivals (PFS) are shown in the table:

Table

Disease risk	Stage risk	% of patients	Overall risk	OS @ 3 yrs	PFS @ 3 yrs
Low	Low	11%	Low	46%	47%
Low	High	4%	Intermediate	45%	38%
Intermediate	Low	45%			
Intermediate	High	15%	High	39%	34%
High	Low	18%			
High	High	7%	Very High	33%	29%
P value				0.34	0.08

Conclusion: Our outcomes were different in the Low and Very High risk groups reported by Armand, et al. This may be accounted for by a different distribution of diseases or stages within each overall risk category. Variations in other confounding factors also likely contribute to the disparate results. Further analyses of these differences will need to be done to evaluate the validity of this disease risk index in our patients.

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The Cure of HIV with Hematopoietic Cell Transplantation

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Hematopoietic cell transplantation (HCT) has produced the only known cure of HIV infection in a patient. The patient had AML and HIV infection and was transplanted in 2007 using peripheral blood stem cells from an adult *CCR5*-delta32/delta32 donor. The patient, now known as "The Berlin Patient", does not require antiretroviral drug therapy and, in the analysis of peripheral blood cells and numerous tissue samples, no proviral DNA can be detected. However, this successful HCT has not been repeated because the frequency of *CCR5*-delta32/delta32 is less than 1% in Caucasians and much less in other ethnic groups, and patients in need of an HCT generally have only a few potential donors. Moreover, a very close HLA match between donor and patient is required when an adult donor is used. In marked contrast, cord blood HCT requires a significantly less stringent HLA match between donor and patient making it much more feasible to find an appropriate unit for an HIV infected patient. We have tested more than 18,000 cord blood samples from our cord blood bank and collaborating cord blood banks, and have identified 121 cryopreserved *CCR5*-delta 32/delta32 units that are available for HCT. An adequate cord blood cell dose need be only 1 x 10(7) TNC/kg if a combined haploidentical/cord blood transplant is performed. Projections of HLA match rates for an inventory of 300 homozygous units indicates a probability of finding an adequately matched cord blood unit with an adequate cell dose 82.1% of the time for Caucasian adults and for 85.6% for Caucasian pediatric patients. For adult African-Americans, Mexican-Americans and Chinese-Americans the potential HLA match rates are 31.6%, 48.9% and 13.9%, respectively.

Conclusion: Patients who have an indication for an HCT for a hematologic malignancy or other disorder, and who are infected with HIV should be considered for transplantation with a *CCR5*-delta32/delta32 cord blood unit.

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Can Intravesical Instillation of Recombinant Activated Factor VII (rFVIIa) and Aminocaproic Acid (AA) Stop Bleeding in Hemorrhagic Cystitis?

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Hemorrhagic cystitis (HC) is a serious complication of hematopoietic stem cell transplant (HSCT) caused by toxic effects of the conditioning regimen and/or viral reactivation. Treatment of HC is supportive and most interventions result in only transient hemostasis. rFVIIa is a potent procoagulant and is FDA approved for use in patients with Hemophilia. Intravenous rFVIIa has been used off-label to establish hemostasis in multiple conditions. Intravenous rFVIIa in patients with HC has been shown to briefly stop the bleeding. We successfully used intravesical installation of rFVIIa to stop bleeding in patients with post-transplant HC. Pediatric patients with post-transplant HC were treated with intravesical rFVIIa. The bladder was irrigated by normal saline (NS) until clear outflow was achieved; then rFVIIa (~ 50mcg/kg) was instilled in 50-100 ml of NS and dwelled for 1-2 hours. The intravesical instillation of rFVIIa resulted in hemostasis, however it took several days for the bleeding to completely stop. To enhance hemostasis, we instilled 4 gm of AA in 50-100 ml of NS immediately after the rFVIIa was drained and dwelled AA for 1-2 hours. The addition of AA lead to effective hemostasis and development of intravesical clot. Intravesical instillation and dwelling of rFVIIa followed by instillation and dwelling of AA safely and effectively stops HC post HSCT. Based on this experience we are developing a standardized protocol to treat post-transplant HC in the early stages of its development.

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Lower Dose of Antithymocyte Globulin (ATG) Decreases Infection Rate without Increasing Graft-Vs-Host Disease (GVHD) and Relapse in Patients Undergoing Reduced-Intensity (RIC) Allogeneic Hematopoeitic Stem Cell Transplant (HSCT)

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